Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	GEN Docket No. 90-314
	)	ET Docket No. 92-100
Amendment of the Commission's	)	
Rules to Establish New Personal	)	RM-7140 et. al
Communications Services	)	PP 35-PP 40, PP 79-PP 85

COMMENTS OF
COMMUNICATIONS SATELLITE CORPORATION

Communications Satellite Corporation (COMSAT), through its COMSAT Mobile Communications division, hereby submits the following comments in response to the Commission's Notice of Proposed Rulemaking on personal communications services (PCS).[1] While COMSAT supports the Commission's efforts in this docket to allocate frequencies and establish a framework for the next generation of mobile services, we find that the regulatory approach outlined in the PCS NPRM does not directly address issues related to satellite PCS applications. As a leader in satellite communications, COMSAT is quite active in the development of advanced digital mobile-satellite services and transportable terminals that will be the hallmark mobile-satellite communications in the future. In order for this development to continue, however, the Commission needs to move expeditiously to allocate spectrum to support advanced mobile-satellite services, such as satellite-based PCS.

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[1] Amendment of the Commission's Rules to Establish New Personal Communications Services, 7 FCC Rcd 5676 (1992) (PCS NPRM).

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I. MOBILE-SATELLITE IS AN IMPORTANT COMPONENT OF PCS

COMSAT strongly supported the Commission's proposal in ET Docket No. 92-9 to identify spectrum suitable for the development of new telecommunications technologies, and agreed with its selection of the 1850-2200 MHz segment of the spectrum for this purpose. We applauded the Commission's recognition that this portion of the spectrum could be used to accommodate the development of advanced wireless and mobile services. Thus, in our view, through the instant NPRM, the Commission is making its first formal attempt at identifying the types of services that will be eligible to take advantage of the new 2 GHz spectrum. The Commission has chosen to begin with PCS.

PCS, as the Commission has defined it, includes a broad array of "mobile or portable radio communications services which could provide services to individuals and business, and be integrated with a variety of competing networks."[2] To support PCS, the Commission has proposed to allocate 110 MHz of spectrum within the redeveloped 2 GHz band, subject to final action in ET Docket 92-9, and has set forth proposed technical and licensing rules. While it is clear from the Commission's definition of PCS that this new category could encompass many different kinds of services, the PCS NPRM focuses on domestic implementation of a terrestrial mobile service. While COMSAT has no objection to this approach, we wish to emphasize that satellite-based services has an important role to

[2] PCS NPRM at para. 29.

play in PCS.

In order to enable satellite-based PCS to develop along side terrestrial PCS applications, COMSAT recommends that the Commission take the following actions. First, as we stated in our comments in ET Docket No. 92-9, we believe the Commission should proceed immediately to allocate the bands 1970-2010 MHz (E-to-S) and 2160-2200 MHz (S-to-E) to MSS in the National Table of Frequency Allocations and implement the WARC-92 agreement to allocate these bands to MSS on a global basis. This would be a necessary and important step for development of advanced MSS services, including PCS-type services. Secondly, implementation of the 2 GHz bands allocated at WARC-92 to MSS prior to the year 2005 will allow development of PCS type services using mobile-satellites and provide a capability for global roaming using common frequency bands. Thirdly, it is important in our view that during the technical and operational development of PCS-type services, due attention be given to technical compatibility and interoperability of terrestrial and satellite PCS. However, as we stated in our comments in ET Docket No. 92-9, COMSAT believes that separate allocations for satellite and terrestrial PCS-type services would best serve users and would allow these services to properly develop and complement one another. Indeed, we support the direction the Commission is apparently taking in the PCS NPRM and in ET Docket No. 92-9 to make separate allocations in the 2 GHz band for terrestrial and satellite mobile services. The only overlap in spectrum would occur in the 1970-1975 MHz band segment where the

Commission is proposing terrestrial PCS and where WARC-92 made allocation to MSS in Region 2. This, however, should not present a major problem and would not impact the global MSS bands.

II. THE COMMISSION'S PROPOSED REGULATORY APPROACH DOES NOT ADDRESS SATELLITE-BASED PCS

The PCS NPRM sets forth in great detail a proposed regulatory and licensing framework for the Commission's new PCS classification. These proposed guidelines appear to focus exclusively on the implementation of a domestic terrestrial system based on the current cellular telephone market structure, rather than on the coordination of an international PCS network. The national environment and the international environment for implementing PCS-type services differ drastically, and any rules and policies governing these versions of PCS must reflect this difference in environments. Indeed, the Commission's current regulatory practice distinguishes terrestrial mobile from satellite-mobile services. Thus, COMSAT believes that the Commission should continue to give recognition to the different circumstances under which these services operate and limit the scope of the instant regulatory proposals to terrestrial PCS. In our view, handling terrestrial and satellite PCS issues in separate proceedings will lead to earlier implementation of both services. This does not mean, however, that the Commission should wait for the completion of the terrestrial PCS proceedings before taking steps to address satellite PCS. As the Commission noted in the PCS NPRM, "the ability to achieve personal mobile communications

will entail an array of services and service providers and networks which, ideally, should be transparent to the user. The communications networks of the future will be an amalgamation of existing and developing technologies consisting of radio-based, wire, and fiber delivering information in a digital format to a global clientele."[3]

III. PROPOSED TECHNICAL STANDARDS

As with the proposed regulatory framework, the technical standards set forth in the NPRM are not directly relevant to an international satellite PCS system. Nevertheless, there are a few matters on which we wish to comment.

COMSAT generally supports the proposed 110 MHz allocation to PCS in the following band pairs: 1850-1865 MHz/1930-1945 MHz; 1865-1880 MHz/1945-1960 MHz; and 1880-1895 MHz/1960-1970 MHz. This proposed allocation would preserve the WARC-92 global MSS bands at 1980-2010 MHz and 2170-2200 MHz, which the U.S. delegation strongly supported at WARC-92. These bands are vital to the expansion of existing MSS services and to the development and implementation of advanced mobile-satellite services such as PCS. While the proposed PCS allocation overlaps 5 MHz of the WARC-92 Region 2 MSS allocation at 1970-1980 MHz, COMSAT believes that both groups can be accommodated. COMSAT also is not overly concerned about the 10 MHz overlap of the proposed unlicensed PCS band at 1910-1930 MHz into the WARC-92 secondary MSS bands at 1920-1979 MHz.

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[3] PCS NPRM at para. 133.

While the proposed bands do not overlap the WARC-92 global MSS allocations, the Commission's tentative band selections afford terrestrial PCS operators the flexibility to employ dual-band hand held terminals where the transmitter for terrestrial PCS could operate in a band adjacent to the satellite uplink band at 1980-2010 MHz. This, combined with appropriate standards of interoperability could provide subscribers with the option of having multimode mobile phone capabilities utilizing both satellite and terrestrial PCS networks. For example, in base-to-mobile calls, where a caller is unable to complete a message through the terrestrial PCS network the customer would have the option of utilizing a global MSS to complete the call.

With regard to the proposed technical framework, COMSAT cautions the Commission to be flexible and not to impose PCS standards for future systems based on the current developmental technology. The information upon which the Commission relies for interference standards is based upon traditional microwave links, with very conservative protection criteria, with very specific EIRPs for base stations (10 watts) and mobile transmitters (2 watts). While COMSAT is not in the position to challenge these two EIRPS, we believe the Commission should be cautious in setting technical parameters based on these power levels when PCS is an emerging service and remains relatively undefined.

The Commission also asks in the NPRM for comment on whether mobile operation of unlicensed PCS devices should be restricted so that mobiles can transmit only under control of the base station.

COMSAT supports this suggestion, and believes that this approach also has merit for licensed stations. Base station control of frequency assignment results in the most efficient use of limited spectrum in situations where there are more terminals seeking access to frequencies than there are available channels. Thus mobile systems, terrestrial or satellite, can benefit from the advantages of a random access technique, such as a demand assigned system. For example, mobile terminals, maritime or land based, communicating through the INMARSAT system in the 1.6 GHz band currently operate in this manner. The COMSAT coast station assigns transmit frequencies following a request from a mobile earth station for an available channel on a hailing frequency.

IV. CONCLUSION

COMSAT is confident that satellites will play a vital role in bringing advanced mobile services to national and global markets. Throughout the PCS NPRM, the Commission seems to recognize that emerging technologies for mobile satellites are directly relevant to the full development of PCS. The Commission stated that "fully-developed personal mobile communications will require on-going multi-national coordination of, inter alia, spectrum allocation, technical standards, and regulatory treatment of the panoply of services that the Commission has defined as PCS." The Commission also noted the relevance of the decisions taken at WARC-92 regarding MSS allocations in the 2 GHz band and the discussions

that occurred at WARC-92 concerning worldwide allocations for services for PCS-type services in the 1-3 GHz band. The U.S. position at WARC-92 was to maintain the flexibility of the 2 GHz allocation for mobile services that could accommodate PCS type requirements without making a separate exclusive allocation. The Commission also noted that Europe and Japan have identified PCS-type services as regional and national priorities, and are taking action to implement that service in various band segments around 2 GHz and 900 MHz.

Given this situation and the need to move expeditiously on all fronts, we propose that the Commission adopt the following course of action:

(1) Institute a separate proceeding to immediately allocate the bands 1970-2010 MHz (E-to-S) and 2160-2200 MHz (S-to-E) to the MSS service as agreed at WARC-92 so that advanced mobile satellite services like PCS can be developed in the 2 GHz band.

(2) Proceed to adopt appropriate rules for terrestrial PCS at the local and national levels in the instant rulemaking proceeding, but make it clear that these technical and regulatory rules do not necessarily apply to satellite PCS or to PCS at the international level.

(3) Determine the most expeditious way to implement satellite and international PCS-type services on a

national and global basis.

By these actions, the Commission will serve the public interest and foster the development of satellite-based PCS and other advanced MSS services.

Respectfully submitted,

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CERTIFICATE OF SERVICE

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